

织纹螺科一新种记述（腹足纲，前鳃亚纲，新腹足目）

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摘 要 在整理浙江沿海织纹螺科标本时，经传统方法和分子生物学方法鉴定发现 1 新种，即拟半褶织纹螺 *Nassarius (Zeuxis) semiplicatoides* sp. nov.。隶属于腹足纲、新腹足目、织纹螺科、织纹螺属、*Zeuxis* 亚属。文中对新种的形态特征和栖息环境进行了记述，并与近似种进行了比较讨论。
关键词 新腹足目，织纹螺科，新种。
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Zeuxis 亚属系 H. & A. Adams 于 1853 年确立。此亚属的主要特征是：贝壳卵圆形，螺旋部高，壳顶下数螺层具纵肋和螺肋，两者交叉形成布纹状，其余螺层上的纵肋或螺肋不明显或消失或仍和上数螺层一样明显；缝合线处具肩角，呈沟状；壳口卵圆形，滑层游离于体螺层；足后端有 2 个感觉突起；中央齿和侧齿之间有中间板。此亚属的种类在印度–太平洋区系中主要分布于印度–西太平洋暖海区。笔者在整理浙江沿海织纹螺时，经鉴定发现了属于织纹螺属 *Zeuxis* 亚属 1 新种，报道如下。

拟半褶织纹螺，新种 *Nassarius (Zeuxis) semiplicatoides* sp. nov. (图 1~ 2)

正模标本（单位：mm）：壳高 18.29，壳宽 8.14，壳口长 9.56，壳口宽 4.95。副模标本 44 个。壳高 11.65~ 20.05，壳宽 5.38~ 9.05，壳口长 6.21~ 10.52，壳口宽 4.17~ 5.96。

正、副模标本于 2005 年 11 月 25 日采自浙江省宁波市贤庠海涂（北纬 29°35′，东经 121°50′），模式标本保存于宁波大学贝类实验室。

形态描述 贝壳呈长卵圆形，螺层约 8 层。缝合线明显。螺旋部呈圆锥形，体螺层大，超过壳高的 1/2。各螺层上部具有窄的肩角，壳顶光滑，其余壳面具有明显的纵肋和细密的螺旋纹，纵肋间有弱的布纹状雕刻。壳面被有薄的褐色壳皮，壳表黄褐色、黄白色或棕青色，并具有紫褐色色带，在体螺层上有 2~ 3 条，在其他螺层上为 1~ 2 条。壳口卵圆形，内面黄白色，清晰的影印出表面的紫褐色色带。外唇弧形，内缘通常具有 11~ 13 枚齿状突起，边缘下半部分常具有小的突起。内唇内缘通常具有



图 1~ 2 拟半褶织纹螺，新种 *Nassarius (Zeuxis) semiplicatoides* sp. nov.
1. 贝壳腹面观 (ventral view of shell) 2. 贝壳背面观 (dorsal view of shell)

10~ 12 枚齿状褶襞。前沟短。厣角质，呈长卵圆形，黄色，半透明，薄，外缘有时具有细的突起。

齿舌：齿式为 1. 1. 1。对该种 4 个个体齿舌的观察发现，侧齿和中央齿的形态基本相似，但是中央齿上缘小齿的数目和形态却有明显区别，可以分为两种：1) 中央小齿两侧各具 9 个小齿，两侧小齿在形态上对称，但不呈逐渐变小的趋势。小齿在形态上比较细长（图 4）；2) 中央齿上缘小齿约有 12~ 13 枚，小齿在形态上比较粗短（图 3）。第 2 种类型比较常见，本研究中 4 个个体中的 3 个个体属于该类型。和半褶织纹螺 *Nassarius (Zeuxis) semiplicatus* (Adams, 1852) 的齿舌（图 5）相比，新种织纹螺的齿舌在形

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态上一般较小, 中央齿的基板弯曲程度更大。

栖息环境及地理分布: 多生活在潮间带中、低潮区至浅海的泥质或泥沙质海底。在东海较常见, 也可见于南海, 山东、江苏等省都有分布。

讨论 与 *Zaxis* 的种相比, 新种与半褶织纹螺在贝壳形态上最为相似。两者的螺层数都为 8 层; 壳面都被有壳皮, 壳表颜色极为相似, 都具有黄褐色、黄白色或棕青色的个体; 在贝壳雕刻上也有相似, 只是新种体形更细长, 体螺层往往超过壳高的 1/2, 而后的纵肋在体螺层背部右侧多光滑不显; 在生活习性上两者也极为相似, 且都有群聚 (schooling) 现象, 但是笔者观察到在潮间带水洼处, 它们分别群聚在一起, 很少有混合群聚的现象, 而且各自都数量巨大; 齿舌结构扫描电镜观察, 发现两者的齿舌在大小和形态上有较大区别, 且半褶织纹螺中央齿上缘小齿有 9~10 个。通过基于 16S rRNA 基因片段的系统发育分析, 发现新种与红带织纹螺 *Nassarius* (*Zaxis*) *suicandus* (Adams, 1852) 的亲缘关系比与半褶织纹螺的更近。但是与红带织纹螺相比, 在螺层数、壳表颜色、色带颜色、齿舌大小和形状上 (图 6) 两者差别很大, 且新种各螺层上的纵肋发育更完善。

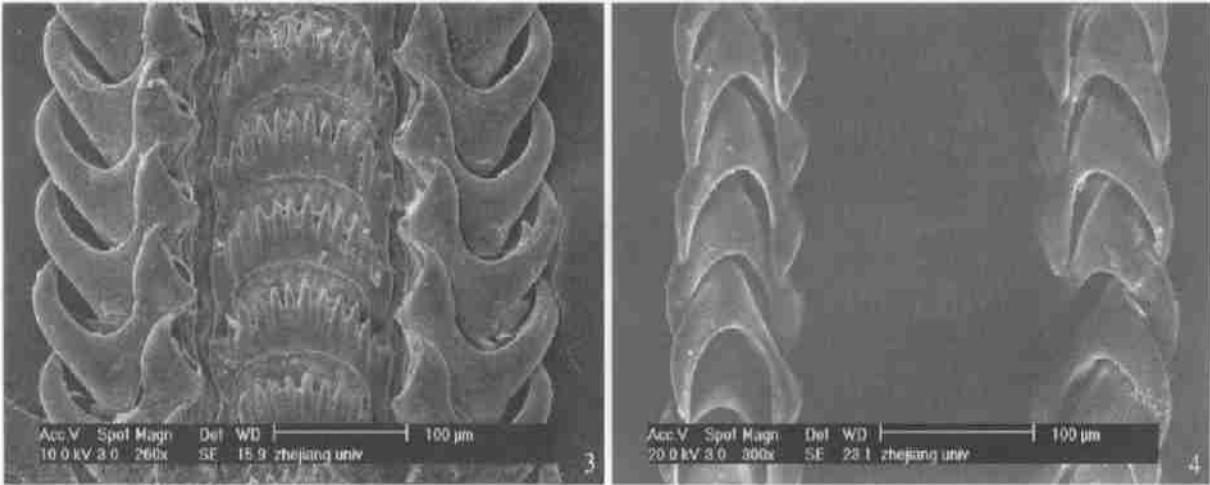


图 3~ 4 拟半褶织纹螺的齿舌, 采样地点: 宁波象山

Figs. 3-4. Radular morphology of *Nassarius* (*Zaxis*) *semiplicatides* sp. nov. Location. Ningbo, Xiangshan.

3. 样本 1 (19.72×8.38) 250× 4. 样本 2 (19.89×8.70) 300×

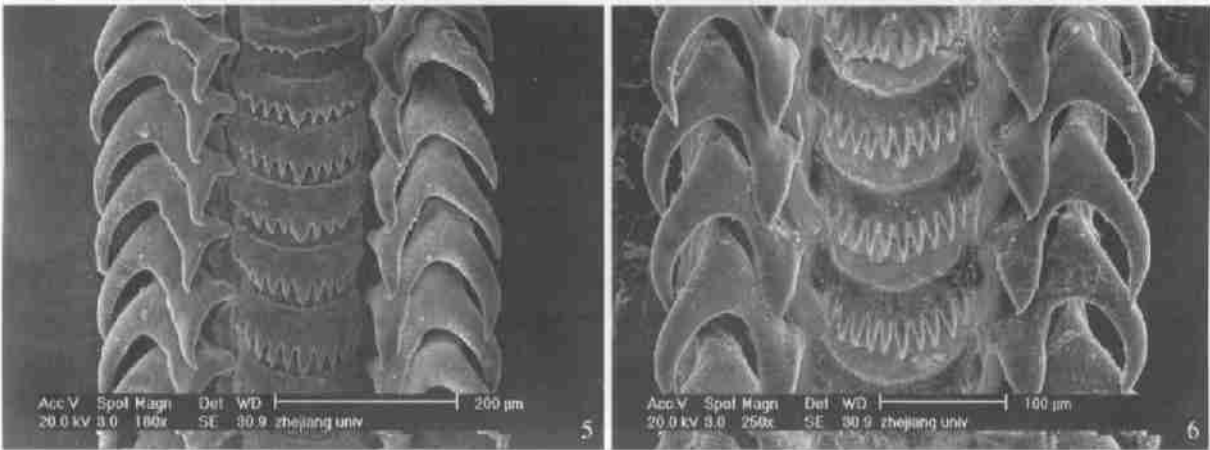


图 5~ 6 齿舌, 采样地点: 宁波咸祥

Figs. 5-6. Radular morphology. Location. Ningbo, Xianxiang.

5. 半褶织纹螺 *Nassarius* (*Zaxis*) *semiplicatus* 180×, (22.51×12.49) 6. 红带织纹螺 *Nassarius* (*Zaxis*) *suicandus*, 250×, (22.01×11.09)

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A NEW SPECIES OF NASSARIIDAE FROM ZHEJIANG PROVINCE, CHINA (GASTROPODA, PROSOBRANCHIA, NEOGASTROPODA)

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Abstract This paper deals with a new species of the family Nassariidae collected from Zhejiang Province. Type specimens are deposited in Malacology Lab., Ningbo University, Zhejiang, China.

Nassarius (*Zauxis*) *semiplicatoides* **sp. nov.** (Figs. 1-2)

Holotype, shell length 18.29mm, shell wide 8.14 mm, registration No. NB20051125-01, Ningbo, Xianxiang (29°35'N, 121°50'E), muddy bottom, intertidal zone. 25 Nov. 2005, coll. ZHANG Ai-Ju. Paratypes 44 specimens, similar as holotype. Shell solid. Spire sculptured with close-set spiral ribs and prominent axial ribs except the apex. Shell yellowish brown, yellowish white or brownish cyan in colour, with purple brown bands, one on the postembryonic whorls, two on the penultimate and three on the body whorl, which banding is showing through in the aperture. Aperture is suboval, outer lip thick, strongly variced, interior with 11-13 elongate denticles. Anal canal distinct. Columella with a bordered columellar callus and irregular lirae.

Operculum elongate oval, yellow, semitransparent, sometimes with denticulated margin. This species is common to abundant in intertidal and subtidal sandy and muddy habits. They are more common in the East China Sea than in South China Sea, but they also can be

seen along the coast of Shangdong and Jiangsu.

It has a rachiglossan radula. The central tooth is multicuspitate with 12-13 cusps, the rachidian base is evenly and deeply notched along anterior edge. The inner and outer cusps of the lateral teeth are hook-shaped. Generally, the lateral teeth are symmetrical (Fig. 4). But, in some cases, there is still another radula type. And the morphology of central tooth is the mainly different feature. The central tooth of this radula type is multicuspitate with 19 cusps, and these cusps is slightness (Fig. 3).

Generally, the new species is most similar as *Nassarius* (*Zauxis*) *semiplicatus* than other species of *Zauxis*, for they have the same whorl number, the similar shell colour and habit. But they are also different, the shell of new species is more elongate than *N.* (*Z.*) *semiplicatus*, and the axial ribs of *N.* (*Z.*) *semiplicatus* is always not obvious on the right side of its back side of body whorl. Although both of them have the similar habit and show schooling, they don't mix together. The radula of them is also different (Fig. 5). In addition, the phylogeny analysis shows that the phylogenetic relationship among this specie and *N.* (*Z.*) *succinctus* is closer than that among this species and *N.* (*Z.*) *semiplicatus*.

Key words Neogastropoda, Nassariidae, *Nassarius*, new species.